Factors Effecting Human Resource Practices On Employee Performance in Libya Oil & Gas Industry

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Abstract— **The success of every organization depends highly on the human resources of the organizations. This is where the human resource has the skills, knowledge and competencies required for the execution of organizational strategy and planning. Many HRM studies have indicated positive effect of HR practices on employee performance, but there are some other studies that indicate the otherwise, indicating that the findings of the existing HRM studies are seemingly inconclusive. Equally, most studies are conducted in other contexts other in Libyan context, most especially in the context of Oil and Gas sector. Therefore, this study try to examine the effect of human resource practices (job design, training and development, compensation, performance appraisal and employee participation and communication) on employee performance in the Libyan oil and gas sector. Using the cross-sectional research approach, data were collected from a sample of 100 employees of Waha Oil Company (WOC). Multiple regression analysis technique will be used to test the study's hypotheses. The results provided support for two out of the five hypotheses. The overall findings signified a positive effect of training & development and performance appraisal on employee performance. This indicates that HR practices could have significant effect on performance, but the effect could be altered and modified by the contingent variables. The findings could also imply that the direct relationship between HR practices and performance could contain some mechanisms in-between. Lastly, the implications, limitations and suggestions for future research were discussed.**

Keywords— *employee performance, Human Resource Management, Human Resource practices, training and development, performance appraisal, Waha Oil Company (WOC) ,Libya.*

1. Introduction

The oil and gas sector is a labor-intensive economic sector and stimuli for emerging economies [17]. It plays a significant role in Libya's economy, and to achieve full potential will require profound change from "business as usual". Libya has an opportunity to start the process for change and development of the industry that can be a major agent for transformation of all walks of life. Also, it is the main economic driver for Libya, as they are the sole cash sources for the country, and Libya's oil export earned about 95% of its total export earnings, 75% of government earnings, and 25% of its GDP before the political unrest took place in 2011, indicating the importance of the oil and gas sector. This makes it essential to give these tasks high priority [1].

Furthermore, Libya has the largest proven oil reserve in Africa and is one of the top influential countries of the organization of the oil exporting countries. However, the average production of crude oil of Libya is decreasing in the OPEC members. In the recent time, the production is fluctuating. In 2018, there was a report that indicated that Libya's oil output was slashed to between 600,000 and 700,000 barrels per day (bpd) from more than one million [29]. Based on Figure 1.1, it could be asserted that oil production in Libya is unstable.
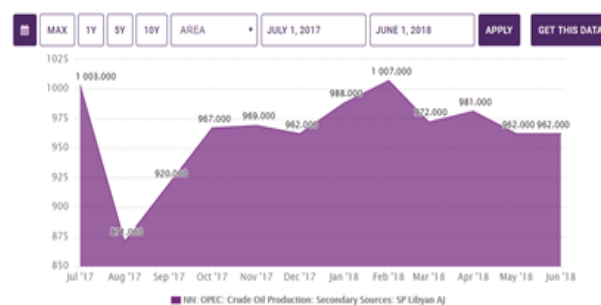

Figure 1.1. Libya Crude Oil Production
Source: OPEC, 2018.

The biggest challenge for Libya include efforts to maintain high production levels [1], given that the average oil production of Libya is volatile and has seen a decreasing trend, and labor productivity in the oil sector has been heavily affected due to lack of accurate Human Resource (HR) practices for the extraction of crude oil and its management [6]. Human resource and its management

form an indispensable part of the whole of competitive advantage [8].

Effective human resource management (HRM) has become crucial and critical to the realization of individual, organizational, community, national and international goals, and objectives, given that employee performance is influenced by a set of human resource management (HRM) practices, and the process of attracting, developing, and maintaining a talented and energetic workforce to support the organizational goals and objectives is the ultimate aim of HRM [19]. This stresses the importance of effectively implementing HRM practices.

According to [27] HRM practices refers to as a system directed at managing human resource and ensuring that resources are employed towards the fulfillment of organizational goals. An effective HR Management practices attract, develops, motivates, and retains employees to ensure the effective implementation and the survival of the organization and its members.

Based on the discussion above, this research aims to investigate the effect of HR practices on employee performance in the Libyan oil and gas sector. This research is expected to expand the existing scope of knowledge in the HRM research field.

2.0 Literature Review

Employees are crucial to organizational successful, given that they possess skills, knowledge and competencies that are essential for organizational competitive advantage [15],[16]. Overall performance hinges on HR practices that can build-up employee capability, commitment and productivity [23]. A firm that enhances its employee productivity and performance will continue to thrive and flourish [10]. It has become imperative for the firms to develop strategies that can improve human resource performance which will consequently aid the accomplishment of their objectives.

This is of great significance, because the ability of a firm to identify its business needs and its workforce needs, especially for highly productive workforce, is a reflection of accomplished competitive advantage of such a firm. HRM is poised to enhance firms' survival and effectiveness through human capital [2].

Human resource practices are major factors in explaining the productivity of employees and the performance of the companies. Several studies have referred to the importance of HR practices and their roles in improving the company's performance and productivity [14]. According to [12], there is a rising agreement among the researchers that organizational human resource policies

can improve labor productivity and performance, and organizational objectives.

Moreover, many empirical studies attempted to link employee performance to some of the human resource management (HRM) practices including training, compensation and involvement and employee performance. Some of these studies include [4], [18] etc. However, there seems in the existing literature some inconsistencies. While substantial numbers of research [4]; [18] have established the link between human resource practices and enhanced employee performance, some studies claimed the otherwise (e.g., [30], [11], [31]).

[11] indicated that stricter tests adopted to examine HR practices-performance nexus signify little or no association between HRM and performance. Thus, conducting this kind of research is imperative to solidify the existing body of knowledge in the research field.

2.1 Research Objectives

This research mainly aimed at identifying the contributory role of HRM in enhancing employee performance.

1. To examine the effect of job design on employee's performance.
2. To determine the effect of training & development on employee's performance.
3. To assess the effect of compensation on employee's performance.
4. To investigate the effect of performance appraisal on employee's performance.
5. To examine the effect of employee participation and communication on employee's performance.

3.0 Research Methodology

The scope of this study involved the employees of Waha Oil Company (WOC), the main national company involved in the extraction of oil and gas in Libya. The Waha oil company composed some firms including American firms ConocoPhillips, Marathon, and Hess in partnership with the National Oil Corporation (NOC). The company can produce/extract approximately 350 thousand barrels per day. Hence, the unit of analysis is individual. This will enable the investigation from the standpoints of employees who are saddled with the tasks of ensuring accomplishment of organizational success.

This study employed quantitative research approach. This approach involves data collection, data analyses and interpretation in order to derive the results [7]. It is appropriate for the current study because it facilitates feedback through a close communication with the participants, and through an organized set of survey questions [25], [26].

The choice of WOC was to examine the role of HR practices in enhancing the productivity performance of the company's employees, which will consequently improve and upgrade the production level of the company and enhance its competitive advantage. 100 respondents involved in the survey. The findings from the study could be generalized to oil and gas industry in Libya.

4.0 Analysis and Findings

The data analyzed using Statistical Package for Social Science (SPSS) version 25. Both descriptive analysis and inference analysis conducted in the analysis process, which covered the frequency statistics, standard deviation, mean, factor analysis, correlation.

4.1 Factor Analysis for Employee Performance

In extracting the dimensions of employee performance, 25 items in the survey were examined using Principal Component Analysis (PCA)method. The result of PCA extract five factors solution model with Eigenvalues > 1 via Varimax with Kaiser' normalization rotation method is listed on Table 4.1.

The initial factor analysis of the dependent variable did not meet the assumptions of factor analysis, but only one item was deleted because the values of the item fall below minimum factor loading of 0.4 [28]. The result of the factor analysis of employee performance, the dependent variable of the current study was presented in Table 4.1. The final result that completely satisfies the conditions of factor analysis is presented below:

Table 4.1. *Rotation Factor Matrix: Employee Performance*

Construct	Items	1	2
	EP4	.848	
	EP10	.840	
	EP3	.826	
	EP2	.807	
	EP1	.784	
	EP5	.752	
	EP14	.656	
	EP25	.600	
	EP15	.570	
	EP6	.514	
	EP20	.484	
	EP12		.825
	EP23		.824
Employee Performance	EP13		.793
	EP17		.784
	EP22		.783
	EP11		.698
	EP18		.651
	EP24		.578
	EP7		.537
	EP21		.536
	EP8		.477
	EP16		.447
	EP19		.403
Eigen Value		10.696	1.778
Variance		42.784	49.898
KMO	.881		
Approx. Chi-Square	1517.820		
Bartlett's Test of Sphericity df	300		
Significance Level	.000		
Extraction Method: Principal Component Analysis.			

Table 4.1 above presented the factor analysis of employee performance and signifies that dependent variable, which was measured with 25 items, has two components and met all the assumptions of factor analysis adequately after deletion of just one item which failed to meet up with the thresholds. The factor loading of the remaining 24 items ranges between 0.403 and 0.848. The removed item was unable to match with the other items in the component and their removal added to the values of total variance explained.

Also, Table 4.2 shows that the value of KMO, which measures sampling adequacy, is 0.881 exceeding the benchmark of 0.60. This indicates that the sample size is sufficient for the conduct of factor analysis. Likewise, the Bartlett's Test of Sphericity is statistically significant, and it supports the factorability of the correlation matrix as the p-value stands at 0.000. The two components explained a variance of 42.784 and 49.898 respectively. The item which was deleted is EP9.

4.2 Factor Analysis for HR Practices

HR practices in this study have 5 dimensions which were subjected to factor analysis using PCA method. The analysis indicates that the construct has five components with Eigen-value greater than 1. Thus, the factors could not be rotated. Table 4.3 below presents the result of the factor analysis.

Table 4.2. *Rotation Factor Matrix: HR practices*

Constr uct	Items	1	2	3	4	5
	JD1	.812				
	JD2	.910				
	TD1		.739			
	TD2		.972			
	TD3		.843			
	CMP1			.557		
	CMP2			.810		
	CMP3			.915		
	CMP4			.892		
	PA2				.735	
	PA3				.783	
	PA4				.937	
	EPC2					.917
	EPC3					.747
Eigen Value		6.707	2.232	1.101	0.941	0.705
Variance		44.714	59.593	66.935	73.209	77.911
KMO						.834
Approx. Chi-Square						930.558
Bartlett's Test of Sphericity	df					105
Significance Level						.000
Extraction Method: Principal Component Analysis						

Table 4.2 above presents the factor analysis of HR practices and signifies that it has five components and met all the assumptions of factor analysis adequately after deletion of 10 items which failed to meet up with the thresholds. The factor loading of the remaining 14 items ranges between 0.557 and 0.972. The removed items were unable to match with the other items in the component and their removal added to the values of total variance explained. With the factor analysis, the HR practices' five

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factors (i.e. job design, training & development, compensation, performance appraisal, and employee participation & communication) remain intact, although some items were deleted.

Moreover, KMO value of 0.834 exceeds the benchmark of 0.60. This indicates that the sample size is sufficient for the conduct of factor analysis. Likewise, the Bartlett's Test of Sphericity is statistically significant, and it supports the factorability of the correlation matrix as the p-value stands at 0.000. The five components explained a variance of 44.714, 59.593, 66.935, 73.209, and 77.911 respectively.

4.3 Reliability Test

In the current study Cronbach's Alpha's value, which signifies reliability of the constructs, firmness and stability of the items that constitutes a given construct, is used. The value of Cronbach's Alpha is also employed to assess the goodness of a measure [31], [32]. The minimum threshold for the value of Cronbach's Alpha is put at 0.6 by [31] and [3], put the minimum threshold at 0.5, the current study adopts the minimum threshold suggested by Stevens [34], which is 0.4. The result is depicted in Table 4.3 below:

Table 4.3. *Reliability Coefficient for Each Construct*

Construct	Before EFA		After EFA	
	No. of Items	CA	No. of Items	CA
EP	25	.941	24	.939
JD	3	.508	2	.746
TD	6	.845	3	.763
COMP	5	.891	4	.873
PA	5	.907	3	.905
EPC	5	.706	2	.671

Note: CA=Cronbach Alpha; EP=Employee Performance; JD=Job Design; TD=Training & Development; COMP=Compensation; PA= Performance Appraisal; EPC=Employee Participation & Communication.

From Table 4.3 above, there is an indication that the Cronbach's alpha coefficients represent high and acceptable level and thus the constructs of the research are reliable. The Cronbach alpha values for all the variables before EFA are at acceptable level. After EFA, the Cronbach's alpha coefficients for all variables represent high and acceptable level and thus the constructs of the research are reliable. The Cronbach's alpha values for employee performance, job design, training & development, compensation, performance appraisal, and employee participation & communication are .939, .746, .763, .873, .905, and .671 respectively. Therefore, the result from Table 4.4 indicates strong scale and a good internal consistency of the constructs of the study. In view of this, the constructs of the research are reliable and fit for further analysis.

4.4 Descriptive Analysis of the Constructs of the Current Study

Descriptive analysis of the constructs of the current study offers a general view regarding how the survey respondents have responded to the survey instrument used in the study[25].[26].Descriptive analysis is explained through mean and standard deviation.

Table 4.4. *Descriptive Statistics for the Variables of the Current Study*

Constructs	N	Mean	Std. Deviation
EP-Employee Performance	100	3.17	.024
JD-Job Design	100	3.77	.429
TD-Training & Development	100	4.32	.242
COMP-Compensation	100	3.82	.237
PA- Performance Appraisal	100	4.14	.223
EP-Employee Performance	100	3.20	.458

Table 4.4 shows that all variables of the current study possessed a mean ranging from 3.17 to 4.14, and the standard deviation of all the variables ranged from 0.024 to 0.458. These values of overall mean scores and standard deviation scores for all the variables are quite acceptable. Hence, it can be asserted that the respondents of the current study have good understanding of the studied constructs.

5.0 Conclusion & Recommendation

The results signify a variance of 38% employee performance signifying that the independent variables (job design, training and development, compensation, performance appraisal, and employee participation & communication) accounted for 38% of the variance in employee performance, and thus, R^2 is substantial. The theorized relationships in the current study involve direct paths estimated to attain the results of the hypotheses. The results of the tested hypotheses indicate that out of 5 hypotheses, two hypotheses were supported while the remaining three hypotheses were not supported. Table 5.1 below captioned the research questions, the corresponding derivative hypotheses, and the findings.

Table 5.1. *Summary of Research Questions, hypotheses, and findings.*

RQ	Research Questions	H.	Hypotheses	Findings
1.	Does job design have effect on employee performance?	1	Job design has significant effect on employee performance in WOC.	Not Supported
2.	Does training & development have effect on employee performance?	2	Training and development have significant effect on employee performance in WOC.	Supported
3.	Does compensation have effect on employee performance?	3	Compensation has significant effect on employee performances in WOC.	Not Supported
4.	Does performance appraisal have effect on employee performance?	4	Performance appraisal has significant effect on employee performance.	Supported
5.	Does employee participation and communication have effect on employee performance?	5	Employee participation and communication has significant effect on employee performance.	Not Supported

Some proposed relationships between the independent and dependent variables were established by the findings of this study, but some limitations characterized this study. First and foremost, it has been earlier noted that the overall findings of this study indicate that substantial studies might have indicated significant effects of HR practices on performance, but the effects could be altered and modified by the contingent variables.

Likewise, the finding of this study could signify that the direct relationship between HR practices and performance contain many fundamental processes and mechanisms involved in HR practices-performance relationship. Thus, future researcher can look for a suitable moderating or mediating variable that could put more theoretical insights into the connection between HR practices and employee performance.

Furthermore, research design of the present study is cross-sectional research design which does not give room for causal inferences to be made from the population. So, a longitudinal research design is deemed suitable for the future research in order to measure the theoretical constructs at different points in time to validate the findings of the current study.

Additionally, employee performance was assessed using self-report measures. Self-report measures are valid in measuring employee performance, most especially, when anonymity was assured during the data collection exercise [5].

However, given the position of [22], the use of self-reports is related to common method variance and, according to [9], [20], and [24], it is also associated with social desirability bias. Originally, this study attempts to lessen these anomalies by guaranteeing anonymity and enhancing scale items [21], [22] but it is likely that the respondents of this study might have under-reported their nonconformity on survey questionnaires. Thus, future research may consider employment of other approaches to evaluate employee performance. With the advancement in today's reliance on Internet of Things (IoT) and Articifial Intelligence (AI), more challenges is coming. It is important for us to prepare ourselves with all the necessary tools and knowledge to face the challenge.

Acknowledgments

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